



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4**

Science and Ecosystem Support Division
Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

September 17, 2009

4SESD-EIB

MEMORANDUM

SUBJECT: Dalton Utilities Private Well Sampling - Field Systems Audit
Dalton, Georgia 30722
SESD Project # 09-0713

FROM: Mike Neill, Acting Chief *M. Neill*
Enforcement Section

THRU: Archie Lee, Chief *Archie Lee for*
Enforcement and Investigations Branch

TO: Gail Mitchell, Deputy Director
Water Protection Division

Attached is the Science and Ecosystems Support Division's (SESD's) Field Systems Audit Checklist for the Dalton Utilities Private Well Sampling that was conducted near the Dalton Utilities land application system (LAS) facility in Dalton, GA on September 9, 2009. The Field Systems Audit was conducted by Mike Neill, SESD. Dalton Utilities employees, Mr. David Oxford and Mr. David White, conducted the private well survey and sampling. Ms Dena Haverland from Dalton Utilities was also present during the audit.

Dalton Utilities (DU) answered SESD's questions, and information requested as part of the audit was made available for review. SESD observed DU samplers collecting three potable/residence well samples (79, 80 and 81) during the audit. DU potable well sampling procedures were acceptable.

DU is conducting private well surveying and sampling near its LAS facility because of elevated levels of perfluorinated compounds (PFCs) detected in its sewage sludge, composted sewage sludge, monitoring wells and downstream in the Conasagua River. DU is conducting a well survey to identify any private wells that are used as the primary source of drinking water at a distance of 1.0 mile extending from the outer boundary of the LAS.

During the audit, the DU staff were conducting private well surveys on Fox Bridge Road in Murray County, GA. They were using municipal and county records, water company records and the Polk Directory to search for evidence if a residence was using private well water or municipal water. The DU employees would verify their records by observing water

meters, pump houses and/or verbal confirmations from the residents. When a resident was not available, a small vial was filled from the outside tap to field test for the presence of chlorine to determine if the water is treated by a municipality. Nineteen residences were surveyed during the audit.

If you have any questions concerning the field system audit, please call me at (706) 355-8614 or neill.mike@epa.gov.

Attachment

United States Environmental Protection Agency
Region 4

Science and Ecosystem Support Division
980 College Station Road
Athens, Georgia 30605-2720



**HAZARDOUS WASTE SITE
FIELD SYSTEMS AUDIT (OVERVIEW) CHECKLIST**

PROJECT (SITE) NAME: Dalton Utilities Private Well Sampling

PROJECT (SITE) LOCATION: Dalton, Georgia

SESD PROJECT ID NUMBER: 09-0713

Auditor: Mike Neill

Date: September 9, 2009

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**HAZARDOUS WASTE SITE
FIELD SYSTEMS AUDIT CHECKLIST**

Facility/Site Name: Dalton Utilities Private Well Sampling						
Address: Dalton, GA						
SESD Project ID No.: 09-0713				EPA ID No.:		
Audit Team: <u>Mike Neill</u>				Date: September 9, 2009		
Field project leader for organization being audited: Dena Haverland						
Affiliation: Dalton Utilities				Phone No.: 706-529-1010		
Address: 1200 VD Parrott Jr. Parkway, PO Box 869, Dalton, GA						
Other Sampling Personnel and Affiliation: <u>David Oxford, Dalton Utilities 706-529-1204</u> . <u>David White, Dalton Utilities 706-529-1241</u> .						
Type of investigation/study? Private Well Sampling						
QAPP or study plan issued? Dalton Utilities Drinking Water Well Survey Protocol				Date issued: NA		
QAPP or study plan reviewed by the SESD? <u>Comments:</u> No				Acceptable?	Yes	No
Was QAPP or study plan followed? <u>Comments:</u> Modified based on EPA's comments.						
Was a safety plan prepared for the study? <u>Comments:</u> No. Dalton Utilities has Environmental Health & Safety SOPS for plant operations.						
Was the safety plan adequate? <u>Comments:</u> Not Applicable (NA)						
Was the safety plan followed? <u>Comments:</u> NA						
Additional comments or information:						
Check (✓) Sections completed for this audit:				1. ✓	2. ✓	3. no
				4. no	5. no	6. no
Key: <div style="display: flex; justify-content: space-between;"> <div> 1. General Procedures 2. Ground Water Sampling 3. Soil, Sediment, Sludge Sampling </div> <div> 4. Surface Water Sampling 5. Waste Sampling 6. Monitoring Well Installation </div> </div>						

GENERAL PROCEDURES - SAFETY, RECORDS, QA/QC, CUSTODY, ETC.

1.	What types of samples were collected? <u>Comments:</u> Potable / residential wells
2.	Were sampling locations properly selected? In accordance with the sampling plan? <u>Comments:</u> Yes, taps closest to well pump.
3.	Were sampling locations adequately documented in a bound field log book using indelible ink? <u>Comments:</u> Locations and measurements were documented with data recorders. Notes were taken on work sheets.
4.	Were photos taken and a photo-log maintained? <u>Comments:</u> No.
5.	What field instruments were used during this investigation? <u>Comments:</u> YSI 556 multi-probe system (MPS) for temperature, conductivity, pH and dissolve oxygen. Hach 2100P Turbidity meter for turbidity. Trimble GPS unit for location coordinates.
6.	What safety monitoring equipment, protection and procedures were used prior to and during sampling? <u>Comments:</u> None required.
7.	Were field instruments properly calibrated and calibrations recorded in a bound field logbook? <u>Comments:</u> Did not observe. Water quality parameters instruments were calibrated at Dalton Utilities lab and the calibration data is electronically recorded.
8.	Were safety instruments properly calibrated and calibrations recorded in a bound field logbook? <u>Comments:</u> NA
9.	Was sampling equipment properly wrapped and protected from possible contamination prior to sample collection? <u>Comments:</u> Sample containers were shipped in sealed box and kept in box until sample collection.
10.	Were sample containers stored and/or transported separately from any source of gasoline, oils, or solvents prior to use? <u>Comments:</u> Yes
11.	After proper decontamination, was the equipment stored and/or transported in a "clean" environment away from gasoline, oil, grease, solvents, etc.? <u>Comments:</u> Yes
12.	Was sampling equipment constructed of glass or stainless steel? If not, what material? <u>Comments:</u> HDPE sample containers.
13.	Were samples collected in proper order, least suspected contamination to most contaminated? <u>Comments:</u> Yes
14.	Were clean disposable latex, nitrile or vinyl gloves worn during sample collecting? <u>Comments:</u> Yes
15.	Were gloves changed for each sample collected/sample location or as needed, if compromised? <u>Comments:</u> Yes
16.	Was any equipment field cleaned for re-use during sampling event? <u>Comments:</u> No
17.	List type of equipment cleaned: <u>Comments:</u> NA

18.	Were proper field cleaning procedures acceptable? <u>Comments:</u> NA
19.	Were equipment rinse blanks collected after field cleaning? <u>Comments:</u> NA
20.	Were proper sample containers used for this sampling event? <u>Comments:</u> Yes, 1-liter high density polyethylene (HDPE), box was sealed.
21.	Were split samples offered to the owner or facility representative, if required? <u>Comments:</u> NA
22.	Was a Receipt for Samples form given to the owner or facility representative, if required? <u>Comments:</u> No, will mail results to owner.
23.	Were any duplicate or split samples collected? Specify: <u>Comments:</u> No, DU leaving an information packet.
24.	Were samples properly field preserved? <u>Comments:</u> No preservative required, sample placed on ice after collection.
25.	Were preservative blanks utilized? <u>Comments:</u> NA
26.	Were field and/or trip blanks utilized? <u>Comments:</u> Yes, both field and trip blanks. Also, a duplicate sample was collected.
27.	Were samples adequately identified with labels or tags? <u>Comments:</u> Samples marked with sharpie on bottom. Labels are affixed prior to shipping.
28.	Were sample containers or coolers sealed with a custody seal after collection? <u>Comments:</u> Custody seal affixed to cooler prior to shipping.
29.	What other security measures were taken to insure custody of the samples after collection? <u>Comments:</u> Sample cooler kept in vehicle while sampling.
30.	Were Chain-of-Custody and Receipt for Sample forms properly completed? <u>Comments:</u> Reviewed a COC from 8/21/09. See page 11.
31.	Were samples shipped to a laboratory? If yes, was Chain-of-Custody included with shipment? <u>Comments:</u> Yes, samples are shipped to lab. Did not observe. DU verbally detailed their shipping procedures which were adequate.
32.	If Yes to Question 30, were samples properly packed? <u>Comments:</u> NA
33.	If samples were shipped to a CLP laboratory, were Chain-of-Custody forms filled out using Forms II Lite (Superfund only)? <u>Comments:</u> NA
34.	If samples were shipped to a CLP laboratory, was Sample Management Office notified daily? <u>Comments:</u> NA
<p><u>Other Comments/Observations:</u></p> <p>General procedures for sampling potable/residential wells for PFCs analyses was acceptable.</p>	

GROUNDWATER

1.	What well types (permanent monitoring wells, temporary monitoring wells, potable/residential wells, industrial, etc.) were sampled? <u>Comments:</u> Potable/residential.
2.	For monitoring wells, were wells locked and protected (flush mount or bumper guards)? <u>Comments:</u> NA
3.	Were identification marks and measurement points affixed to the wells? <u>Comments:</u> NA
4.	What were the sizes and construction materials of the well casings? <u>Comments:</u> NA
5.	Were the boreholes sealed at the surface with a concrete pad to prevent surface infiltration? <u>Comments:</u> NA
6.	Was there a dedicated pump in the well? <u>Comments:</u> Yes
7.	Was clean plastic sheeting placed around the well to prevent contamination of the sampling equipment and/or containers? <u>Comments:</u> No
8.	Were sample containers stored and/or transported separately from any source of gasoline, oils, or solvents prior to use? <u>Comments:</u> Yes, HDPE sample containers were shipped in sealed box. Containers were kept in the box until used for sample collection.
9.	Were the total depth and depth to water determined before purging? <u>Comments:</u> NA
10.	What device was used to determine the depth? <u>Comments:</u> NA
11.	Were measurements made to the nearest 0.01 foot? <u>Comments:</u> NA
12.	Was the measuring device properly cleaned between wells? Describe procedures. <u>Comments:</u> NA
13.	Was the measuring device wrapped in plastic or foil or otherwise protected during transportation and/or storage? <u>Comments:</u> NA
14.	How was the standing water volume determined? <u>Comments:</u> NA
15.	How many well volumes were removed and how was the purge volume determined? <u>Comments:</u> Potable wells were purged for 15 minutes or until field parameters stabilized.
16.	Was a sufficient volume of water purged prior to sampling? (3WCV for a 2" Well = ½ (td'-dw') gallons. <u>Comments:</u> Potable wells were purged for 15 minutes or until field parameters stabilized.
17.	How was the purge volume measured? (time or calibrated bucket) <u>Comments:</u> Time.
18.	What was the method of purging? Pump (specify pump type), bailer or other <u>Comments:</u> Dedicated submersible pumps.
19.	Were field parameters stable prior to sampling? <u>Comments:</u> Yes.
20.	How were samples collected? ____ Pump ____ Bailer ____ Other <u>Comments:</u> Directly into the sample containers from taps near the wells.

21.	If a pump was used, what type? <u>Comments:</u> Dedicated submersible pumps.
22.	If a peristaltic pump was used, was a vacuum jug assembly used also? <u>Comments:</u> NA
23.	If a submersible pump was used, was it properly decontaminated (cleaned) before and between wells? <u>Comments:</u> Dedicated.
24.	What were the cleaning procedures? <u>Comments:</u> NA
25.	If bailers were used, did the bailers have Teflon® coated wire leaders to prevent rope from coming into contact with the water? <u>Comments:</u> NA
26.	Were the bailers open top or closed top? <u>Comments:</u> NA
27.	What material type were the bailers? <input type="checkbox"/> Stainless Steel <input type="checkbox"/> Teflon® <input type="checkbox"/> Other <u>Comments:</u> NA
28.	Was a clean bailer and new rope used at each well? <u>Comments:</u> NA
29.	Were samples properly transferred from the sampling device to the sample containers? <u>Comments:</u> NA
30.	Was the pH of field preserved samples checked to insure proper preservation? <u>Comments:</u> NA
31.	Were samples placed on ice immediately after collection? <u>Comments:</u> Yes.
32.	For what analyses were the samples collected? TestAmerica Method Den-LC-0012 <u>Comments:</u> PFCs including perfluorobutanoic acid, perfluoropentanoic acid, perfluorohexanoic acid, perfluoroheptanoic acid, perfluorooctanoic acid (C-8), perfluorononanoic acid, perfluorodecanoic acid, perfluoroundecanoic acid, perfluorododecanoic acid, perfluorotridecanoic acid and perfluorotetradecanoic acid. Also, perfluorobutane sulfonate (PFBS), perfluorohexane sulfonate (PFH₅S), perfluorooctane sulfonate (PFOS), and perfluorooctane sulfonamide (PFOSA).
33.	If samples were split, what were the sample locations/numbers for these? <u>Comments:</u> NA
34.	Were groundwater samples filtered or unfiltered? <u>Comments:</u> NA
35.	If groundwater samples were filtered, what procedure was used? <u>Comments:</u> NA
36.	If low flow/low volume sampling was employed, was the intake (Teflon® tubing) placed at the top of the water column? If not, why? <u>Comments:</u> NA
37.	If low flow/low volume sampling was employed, is the water level being constantly measured to insure minimal drawdown of less than 3 to 4 inches? (Purge Rate = Rate of Recovery) <u>Comments:</u> NA
38.	How many wells were sampled? <input type="checkbox"/> Up gradient <input type="checkbox"/> Down gradient <u>Comments:</u> Three samples (sample 79, 80 and 81). Duplicate collected at sample 81 location.

Other Comments/Observations:

- 1. While purging a residential well, a garden hose is recommended to divert purge water away from the tap to prevent puddles from forming near the sample area. The garden hose should be removed prior to sampling.**
- 2. Information on the laboratory that DU is using is:**

**TestAmerica
4955 Yarrow Street
Arvada, CO 80002
(303) 736-0100
Contact: Michelle Johnston**

Table 1 - Photographs



Photo 1 - Looking Southeast – Compost windrow curing on Dalton Utilities LAS site.



Photo 2 – Looking East – Dalton Utilities sampler purging in preparation of sample 79 collection at pump well house.



Photo 3 – Looking West – Dalton Utilities sampler preparing a field blank.



Photo 4 – Looking West – Dalton Utilities sampler purging in preparation of sample 80 collection at the tap on the residence closest to the pump well house.

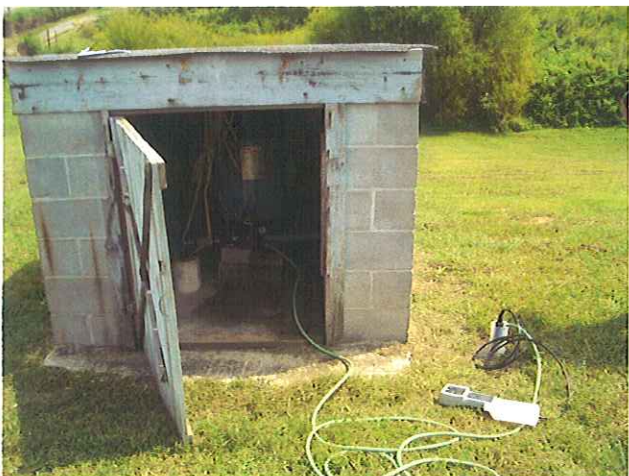


Photo 5 – Looking South – Dalton Utilities sampler purging in preparation of sample 81 collection at pump well house.

Chain of Custody Record

Sampler ID _____
 Temperature on Receipt: _____
 Drinking Water? Yes ☐ No ☐

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124-280 (05/98)

Client: <u>Delta Utilities</u>		Project Manager: <u>Don Heurkens</u>		Date: <u>8-21-09</u>	Chain of Custody Number: <u>116938</u>
Address: <u>P.O. Box 869</u>		Telephone Number (Area Code)/Fax Number: <u>706-529-1610</u>		Lab Number: _____	Page: <u>1</u> of <u>1</u>
City: <u>Delta</u>	State: <u>GA</u>	Zip Code: <u>30722</u>	Site Contact: _____	Lab Contact: _____	
Project Name and Location (State): <u>Private Well Samples</u>			Customer/Well Number: _____		
Contract/Purchase Order/Quote No.:					

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix						Containers & Preservatives						Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt	
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH					
#27 93 River View Dr	8-21-09	10:19	X													X	See Enclosed List
#28 189 River View Dr		10:30	X													X	
#29 38 River View Dr		10:46	X													X	
#30 428 Holly Dr		11:05	X													X	
#31 196 River View Dr		11:14	X													X	
#32 382 Forest Holly Dr		11:22	X													X	↓
#33 273 West Holly Creek Dr		11:48	X													X	
<u>Def</u>	8-21-09	<u>Def</u>	X													X	

Possible Hazard Identification		Sample Disposal	
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Dispose By Lab <input type="checkbox"/> Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)
Turn Around Time Required		QC Requirements (Specify)	
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days	<input checked="" type="checkbox"/> Other <u>ASAP</u>		

1. Relinquished By: <u>Don Heurkens</u>	Date: <u>8-21-09</u>	Time: <u>16:00</u>	1. Received By: _____	Date: _____	Time: _____
2. Relinquished By: _____	Date: _____	Time: _____	2. Received By: _____	Date: _____	Time: _____
3. Relinquished By: _____	Date: _____	Time: _____	3. Received By: _____	Date: _____	Time: _____

Comments: _____

DISTRIBUTION: WHITE - Returned to Client with Report, CANARY - Stays with the Sample, PINK - Field Copy